Curriculum Vitae

Personal Data

Full name:	Viet Quoc Pham
Place of Birth:	Hai Duong, Vietnam
Date of Birth:	April 05, 1990
Office:	4.10, CONNECT Centre, 34 Westland Row, 8PRX+RV Dublin, Ireland
Phone:	(+353) 083 475 5354
Skype:	vietpq90@hotmail.com
Email:	viet.pham@tcd.ie / vietpq@ieee.org / vietpq90@gmail.com
Personal Site:	https://vietpq90.github.io/
Profiles:	Google Scholar, ResearchGate, Publons, Scopus, LinkedIn, and ORCID

Education

Aug. 2017 — Doctor of Engineering in Telecommunications, **Inje University**, Kimhae, Korea
Thesis: "Fair and Energy-Efficient Resource Allocation Optimization in Wireless Networks"
Academic Advisor: Prof. Won-Joo Hwang
Prize: **Best Ph.D. Dissertation**, Ranking #1 in Engineering

Aug. 2015 — Master of Science in Telecommunications, **Inje University**, Kimhae, Korea
Thesis: "Multi-Timescale Cross-Layer Design in Wireless Multihop Networks"
Academic Advisor: Prof. Won-Joo Hwang

Aug. 2013 — Bachelor of Science in Electronics and Telecommunications,
Hanoi University of Science and Technology, Hanoi, Vietnam
Thesis: "Building an Observational Data Processing and Archiving Center for Automatic Water Level Gathering and Alarming System" (in Vietnamese)
Academic Advisor: Prof. Van-Duc Nguyen

Academic Experience

Jan. 2023 - Current — Assistant Professor,
School of Computer Science and Statistics, Trinity College Dublin,
The University of Dublin, Republic of Ireland

Jan. 2023 - Current — TCD Supervisor,
SFI Centre for Research Training in Advanced Networks for Sustainable Societies,
ADVANCE CRT, Republic of Ireland

Jan. 2023 - Current — Associate Investigator,
SFI Research Centre for Future Networks and Communications,
CONNECT, Republic of Ireland

Jan. 2020 - Jan. 2023 — Research Professor,
Korean Southeast Center for the 4th Industrial Revolution Leader Education,
Pusan National University, Republic of Korea

Mar. 2018 - Dec. 2019 — Research Professor,
ICT Convergence Research Center, Changwon National University/Inje University,
Republic of Korea

Sep. 2017 - Feb. 2018	Post-Doctoral Research Fellow, Department of Computer Science and Engineering, Kyung Hee University, Republic of Korea
Sep. 2013 - Jun. 2017	Research Assistant (PhD Student), Department of Information and Communication System, Inje University, Republic of Korea
Feb. 2012 - Aug. 2013	Research Assistant (Senior Student), School of Electronics and Telecommunications, Hanoi University of Science and Technology, Vietnam

Visiting Experience

Jan. 2016- Feb. 2016	Tokyo University of Science, Japan, Prof. Mikio Hasegawa
Aug. 2019 - Aug. 2019	Tokyo University of Science, Japan, Prof. Mikio Hasegawa

Grants and Projects

2019 - 2024	**Korea NRF Basic Science and Research** (500,000,000 KRW) Principal Investigator (sole PI), Grant NRF-2019R1C1C1006143 Title: *Privacy Enhancing Connected Cars in 5G and Beyond*
2022 - 2024	**FDCRGP Grant, Nazarbayev University** ($136,000, 3 years) Co-Principal Investigator, Grant No. 11022021FD2925 Title: *Edge-assisted Activity Recognition using Skeletal Representation and DL for Video Surveillance*
2019 - 2024	**Korea NRF Basic Science and Research** (500,000,000 KRW) Key Participant, Grant NRF-2019R1I1A3A01060518 Title: *Edge Computing in the 5G Ecosystem: Joint 4C Framework and Its Applications*
2018 - 2019	**Korea NRF Basic Science and Research** (25,000,000 KRW), Key Participant Project in collaboration with The University of Sydney, Grant NRF-2018K2A9A1A01090540 Title: *Low Overhead Channel Access for 5G Mobile Communications in Large-Scale IoT Networks*
2020 - 2027	**Brain Korea (BK) 21** (549,825,000 KRW/year), Participant, Pusan National University, Korean Southeast Center for the 4th Industrial Revolution Leader Education

Awards and Recognition

- Decade of contribution award, Wireless AI (WAI) Laboratory, Pusan National University, 2023.
- Best paper award, IEEE International Conference on Advanced Technologies for Communications (ATC), 2022.
- Award for outstanding contributions and research excellence, Minister of Education (Korea), 2021.
- Golden globe award 2021 for young Vietnamese scientists, Ministry of Science and Technology, 2021.
- World's top 2% of scientists on Stanford University list, 2021-2022.
- Top reviewer award, IEEE Transactions on Vehicular Technology, 2020.
- Best Ph.D. dissertation (ranking #1), Inje University, 2017.
- Leadership and scientific publication scholarship, Inje University, 2015-2016.

- Best paper award, KMMS 2014, JKCCS 2016, KJCCS 2020, KICS 2021.
- Prize for excellent students, Vietnamese Students' Association in Korea (VSAK), 2015.
- University scholarship for excellent students, HUST, 2010-2013.

Mentoring and Teaching Experience

Lecturer, Trinity College Dublin, 2023

1. **Microprocessor Systems - CSU23021** (Hilary Term 2023, undergraduate course): *This module provides a holistic overview of how a typical general purpose computing system functions, followed by a deep-dive into the various key architectural features of such systems.*

Assistant Lecturer, Pusan National University, 2021

1. **AI for NextG networks** (Winter 2021, graduate course): *The students learn how to apply different AI techniques (e.g., machine, deep, federated, and reinforcement learning) for NextG networks, and how NextG wireless can help to improve the performance of AI and deployment of AI services.*

Adjunct Lecturer, Inje University, 2018 - 2019

1. **Convex optimization** (Fall 2018, graduate course): *This course focuses on the fundamentals of convex functions and problem formulation and optimization. Further, this course is also a prerequisite for advanced courses, such as game theory, artificial intelligence, and machine learning.*
2. **Game theory in wireless and communication networks** (Spring 2019, graduate course): *This course equips the students with promising mathematical tools (e.g., cooperative games, coalitional games, and Stackelberg games) to solve problems in wireless and communication networks from the economics perspectives.*
3. **Machine learning in wireless and communication networks** (Fall 2019, graduate course): *This course delivers the fundamental concepts of machine learning (supervised and unsupervised learning) and its applications to future wireless networks and Internet-of-Things systems.*

Teaching Assistant, Inje University, 2016 - 2017

1. Introduction to Android Programming (Fall 2016, undergraduate course): *Responsible for preparation of teaching materials, assignments, term projects, and labs.*
2. Data and Computer Communications (Fall 2016, Spring 2017, Fall 2017, undergraduate course): *Responsible for preparation of teaching materials, term projects, and labs.*

Mentoring Assistant, Hanoi University of Science and Technology, 2012

1. Project II (Fall 2012, undergraduate course): *Worked as a senior student and guided 4th-year undergraduate students on programming skills and testbed designs.*

Supervision

Doctoral Students

- Mai Thi Le [Pusan National University, 2021/03-Present]. Topic: wireless artificial intelligence (i.e., wireless AI) and deep reinforcement learning (DRL) for aerial access networks
- Nguyen Minh Duong [Pusan National University, 2020/09-Present]. Topic: deep reinforcement learning and communication-efficient federated learning for very large-scale IoT systems

- Swe Swe Latt [Pusan National University, 2020/09-Present]. Topic: resource allocation optimization for federated learning in future 6G wireless networks
- Dao Thien Thanh [Pusan National University, 2020/09-Present]. Topic: deep learning and depth map for UAV and robotic applications
- Daeil Noh [Pusan National University, 2020/09-Present]. Topic: Deep learning for UAV recognition
- Sang Min Lee [Pusan National University, 2020/09-Present]. Topic: communication-efficient federated learning for massive IoT in future 6G wireless networks

Alumnus

- Nadia Iradukunda [Ph.D., Inje University, 2019/09-2022/08]. Topic: Resource allocation optimization for UAV wireless backhaul 5G networks. Current position: Lecturer, Mount Kenya University, Rwanda.
- Mai Thi Le [MSc, Inje University, 2019/3-2021/2]. Topic: swarm intelligence for D2D communications. Current position: PhD student, Pusan National University, Korea.
- Hoang Huu Trung [Ph.D., Inje University, 2018/9-2021/2]. Topic: ML for mmWave communications. Current position: Lecturer, Hue University, Vietnam.
- Vo Ta Hoang [Ph.D., Inje University, 2017/9-2020/2]. Topic: resource allocation for MEC systems. Current position: Lecturer, Thuyloi University, Vietnam.
- Nguyen Tien Hoang [MSc, Inje University, 2017/9-2019/8]. Topic: coalitional games for NOMA-MEC. Current position: Process Quality Engineer, Vietnam.
- Maurice Nduwayezu [MSc, Inje University, 2017/9-2019/8]. Topic: DRL for NOMA-MEC offloading. Current position: PhD student, Seoul National University of Science and Technology (SeoulTech), Korea.
- Girmay Gebremariam [MSc, Inje University, 2017/9-2019/8]. Topic: swarm intelligence for D2D communications with unlicensed spectrum
- Akmal Azizan [MSc, Inje University, 2017/9-2019/8]. Topic: blockchain for healthcare applications

Professional Activities

Membership

- Member of the IEEE.
- IEEE CTSoc Wireless and Network Technologies (WNT) Technical Committee

Editors

- Scientific Reports [Nature, Q1, IF 4.379, 2022-Present]
- Journal of Network and Computer Applications [Elsevier, Q1, IF 6.281, 2020-Present]

Guest Editors

- IEEE Transactions on Consumer Electronics [Guest Editor, Federated Learning for Personalized Recommendation of Consumer Electronics, 2023]
- Computer Communications [Guest Editor, Intelligent Device-free Sensing for Future Internet of Things: Emerging Trends and Challenges, 2023]

- IEEE Internet of Things Journal [Lead Guest Editor, Aerial Computing for the Internet of Things (IoT), 2021-2022]
- Frontiers in Communications and Networks [Associate Editor, 2020-Present]
- Sensors [Guest Editor, Security and Privacy in the Internet of Things (IoT), 2021-2022]

Invited Referee for Journals

- **IEEE Letters**: IEEE Communications Letters, IEEE Wireless Communications Letters, IEEE Networking Letters.
- **IEEE Transactions/Journals**: IEEE Transactions on Communications, IEEE Transactions on Wireless Communications, IEEE Transactions on Vehicular Technology, IEEE Transactions on Mobile Computing, IEEE Transactions on Cloud Computing, IEEE Transactions on Signal Processing, IEEE Transactions on Services Computing, IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Computational Social Systems, IEEE Transactions on Green Communications and Networking, IEEE Transactions on Cognitive Communications and Networking, IEEE Transactions on Signal and Information Processing over Networks, IEEE Transactions on Industrial Informatics, IEEE Transactions on Network Science and Engineering, IEEE Internet of Things Journal, IEEE Journal on Selected Areas in Communications, IEEE Journal of Selected Topics in Signal Processing, IEEE Open Journal of the Communications Society, Proceedings of the IEEE.
- **IEEE Magazines**: IEEE Communications Magazine, IEEE Wireless Communications, IEEE Control Systems Magazine, IEEE Vehicular Technology Magazine, IEEE Computational Intelligence Magazine, IEEE Consumer Electronics Magazine, IEEE Communications Standards Magazine, IEEE Internet Computing.
- **Other Journals**: ACM Computing Surveys, IEEE Systems Journal, IEEE Access, Computer Networks, Transactions on Emerging Telecommunications Technologies, EURASIP Journal on Wireless Communications and Networking, International Journal of Distributed Sensor Networks, Sensors.

Technical Program Committee

- **2023**: IEEE International Conference on Communications (ICC), IEEE Wireless Communications and Networking Conference (WCNC).
- **2022**: IEEE International Conference on Communications (ICC), IEEE Wireless Communications and Networking Conference (WCNC).
- **2021**: IEEE 94th Vehicular Technology Conference (VTC2021-Fall), IEEE International Smart Cities Conference (ISC2), EAI International Conference on Heterogeneous Networking for Quality, Reliability, Security and Robustness (EAI Qshine), IEEE Global Communications Conference (GLOBECOM).
- **2020**: ICCIS, IEEE Wireless Communications and Networking Conference (WCNC), IEEE International Conference on Communications (ICC), IEEE 91st Vehicular Technology Conference (VTC2020-Spring), IEEE Workshop on Security Trust Privacy in Emerging Cyber-Physical Systems (STP-CPS).

TPC Chair/Track Chair

- **2023**: 12th International Symposium on Information and Communication Technology (SoICT 2023).
- **2022**: 11th EAI International Conference on Game Theory for Networks (EAI GameNets 2022), ICIT 2022, 11th International Symposium on Information and Communication Technology (SoICT 2022), IEEE International Conference on Advanced Technologies for Communications (ATC).

Fields of Research Interest

- **Edge Computing**: resource optimization, aerial computing, edge of things, and edge AI.
- **Future Networks**: 6G, Internet of Things, intelligent surfaces, metaverse, and blockchain.
- **Wireless AI**: communication-efficient federated learning, sustainable AI, and secure learning.
- **AI for Future Networks**: deep learning, deep reinforcement learning, and federated learning.

Publications

Books

[1] C. de Alwis, **Q.-V. Pham**, and M. Liyanage, *6G Frontiers: Towards Future Wireless Systems*, Wiley-IEEE Press, Oct. 2022.

Book Chapters

[1] T. R. Gadekallu, R. Chengoden, N. Victor, T. Huynh-The, P. K. R. Maddikunta, **Q.-V. Pham**, and P. Hegde, "Blockchain Technologies for Metaverse," in *Metaverse Communication and Computing Networks: Applications, Technologies, and Approaches*, Wiley-IEEE Press, 2023.

[2] T. Huynh-The, **Q.-V. Pham**, X.-Q. Pham, T. Do-Duy, and T. R. Gadekallu, "AI and Computer Vision Technologies for Metaverse," in *Metaverse Communication and Computing Networks: Applications, Technologies, and Approaches*, Wiley-IEEE Press, 2023.

[3] **Q.-V. Pham**, T. Huynh-The, M. Zeng, Z. Yang, Z. Ding, and W.-J. Hwang, "The Emergence of Aerial Computing: Applications and Challenges," in *6G Wireless: The Communication Paradigm Beyond 2030*, CRC Press, 2022.

[4] M. Zeng, E. Bedeer, X. Li, **Q.-V. Pham**, O. A. Dobre, P. Fortier, and L. A. Rusch, "IRS-Empowered Wireless Communications: State-of-the-Art, Key Techniques, and Open Issues," in *6G Wireless: The Communication Paradigm Beyond 2030*, CRC Press, 2022.

[5] Z. Yang, **Q.-V. Pham**, C. Huang, Q. Yang, T. Guo, Y. Xu, and Z. Zhang, "Machine Learning for UAV Communication-Assisted Computing Networks," in *Secure and Digitalized Future Mobility: Shaping the Ground and Air Vehicles Cooperation*, CRC Press, 2022.

[6] **Q.-V. Pham**, D. C. Nguyen, T. Huynh-The, W.-J. Hwang, and P. N. Pathirana, "Artificial intelligence and big data for COVID-19 and social distancing," in *Enabling Technologies for Social Distancing: Fundamentals, concepts and solutions*, IET Digital Library, 2022.

[7] D. C. Nguyen, **Q.-V. Pham**, M. Ding, P. N. Pathirana, and A. Seneviratne, "Security, privacy and blockchain applications in COVID-19 detection and social distancing," in *Enabling Technologies for Social Distancing: Fundamentals, concepts and solutions*, IET Digital Library, 2022.

[8] N.-N. Dao, N.-T. Dinh, **Q.-V. Pham**, T. V. Phan, S. Cho, and T. Braun, "Vulnerabilities in fog/edge computing from architectural perspectives," in *Fog/Edge Computing for Security, Privacy, and Applications*, Springer, 2021.

Preprints and Under Review

[1] M. Le, **Q.-V. Pham**, T. Huynh-The, T. Do-Duy, T.-H. Vu, and W.-J. Hwang "Applications of Distributed Machine Learning for Future Internet: A Comprehensive Survey," under review, *IEEE Communications Surveys and Tutorials*.

[2] T.-H. Vu, T.-T. Nguyen, **Q.-V. Pham**, D. B. da Costa, and S. Kim, "THz-based Rate-Splitting Multiple-Access (RSMA): Is It Better Than NOMA?," under review, *IEEE Wireless Communications Letters*.

[3] N. C. Luong, **Q.-V. Pham**, T. Huynh-The, V. D. Nguyen, D. W. K. Ng, S. Chatzinotas, and D. Niyato, "Edge Computing for Semantic Communication Enabled Metaverse: An Incentive Mechanism Design," under review, *IEEE Network*.

[4] S. Pakravan, J.-Y. Chouinard, X. Li, M. Zeng, W. Hao, **Q.-V. Pham**, and O. A. Dobre, "Physical Layer Security for NOMA Systems: Requirements, Issues, and Recommendations," under review, *IEEE Internet of Things Journal*.

[5] A. K. Bashir, N. Victor, S. Bhattacharya, T. Huynh-The, R. Chengoden, G. Yenduri, P. P. R. Maddikunta, **Q.-V. Pham**, T. R. Gadekallu, and M. Liyanage, "A Survey on Federated Learning for the Healthcare Metaverse: Concepts, Applications, Challenges and Future Directions," under review, *IEEE Journal of Biomedical and Health Informatics*.

[6] Y. Ding, Z. Yang, **Q.-V. Pham**, Z. Zhang, and M. Shikh-Bahaei, "Distributed Machine Learning for UAV Swarms: Computing, Sensing, and Semantics," under review, *IEEE Internet of Things Journal*.

[7] T.-H. Vu, **Q.-V. Pham**, D. B. da Costa, M. Debbah, and S. Kim, "Physical-Layer Security in Short-Packet NOMA Systems with Untrusted Near User," submitted, *IEEE International Conference on Communications (ICC)*, 2023.

[8] X.-T. Nguyen, M.-D. Nguyen, **Q.-V. Pham**, V.-Q. Do, and W.-J. Hwang, "Resource Allocation for Compression-aided Federated Learning with High Distortion Rate," submitted, *IEEE International Conference on Communications (ICC)*, 2023.

[9] M.-D. Nguyen, **Q.-V. Pham**, H. T. Dinh, L. Tran-Thanh, D. N. Nguyen, and W.-J. Hwang, "Label driven Knowledge Distillation for Federated Learning with non-IID Data," under review, *International Conference on Learning Representations (ICLR)*, 2023.

[10] T.-H. Vu, **Q.-V. Pham**, T.-T. Nguyen, D. B. da Costa, and S. Kim, "Enhancing RIS-Aided Two-Way Full-Duplex Communication with Non-Orthogonal Multiple Access," under review, *IEEE Transactions on Vehicular Technology*.

[11] T.-H. Vu, T.-V. Nguyen, **Q.-V. Pham**, D. B. da Costa, and S. Kim, "STAR-RIS Enabled Short-Packet NOMA Systems," under review, *IEEE Transactions on Vehicular Technology*.

[12] L. N. T. Huynh, **Q.-V. Pham**, Y. K. Tun, M. D. Hossain, and E.-N. Huh, "Optimization of Task Offloading for Microservice-enhanced Vehicular Edge Computing," under revision, *IEEE Transactions on Vehicular Technology*.

[13] M. Le, **Q.-V. Pham**, Q. V. Do, and W.-J. Hwang, "Resource Allocation in THz-NOMA-enabled UAV Systems Based on Deep Reinforcement Learning," under review, *IEEE Transactions on Vehicular Technology*.

[14] Q. V. Do, **Q.-V. Pham**, and W.-J. Hwang, "QoE-Driven Task Association and Resource Allocation in Aerial-Access Edge Computing Using Deep Reinforcement Learning," under revision, *IEEE Transactions on Communications*.

[15] T. T. Nguyen, C. M. Nguyen, T. Huynh-The, **Q.-V. Pham**, Q. V. H. Nguyen, I. Razzak, D. V. Le, and V. J. Reddi, "Improving Performance of Deep Reinforcement Learning by Incorporating Human Expertise," submitted, *International Conference on Autonomous Agents and Multiagent Systems (AAMAS)*, 2023.

[16] N. H. Chu, D. N. Nguyen, H. T. Dinh, **Q.-V. Pham**, K. T. Phan, W.-J. Hwang, and E. Dutkiewicz, "AI-enabled mm-Waveform Configuration for Autonomous Vehicles with Integrated Communication and Sensing," under review, *IEEE Internet of Things Journal*.

[17] A. Samanta, **Q.-V. Pham**, N.-N. Dao, A. Muthanna, and S. Cho, "mISO: Incentivizing Demand-Agnostic Microservices for Edge-Enabled IoT Networks," under revision, *Transactions on Services Computing*.

[18] T. R. Gadekallu, **Q.-V. Pham**, T. Huynh-The, S. Bhattacharya, P. K. R. Maddikunta, and M. Liyanage, "Federated Learning for Big Data: A Survey on Opportunities, Applications, and Future Directions," under revision, *Engineering Applications of Artificial Intelligence*.

[19] B. Prabadevi, **Q.-V. Pham**, M. Liyanage, N. Deepa, Mounik VVSS, S. Reddy, P. K. R. Maddikunta, N. Khare, T. R. Gadekallu, and W.-J. Hwang, "Deep Learning for Intelligent Demand Response and Smart Grids: A Comprehensive Survey," under review, *Computer Science Review*.

[20] M. Alazab, R. Vinayakumar, S. Srinivasan, **Q.-V. Pham**, S. Venkatraman, Soman KP, and K. Simran, "Deep Learning for Cyber Security Applications: A Comprehensive Survey," under revision, *IEEE Communications Surveys and Tutorials*.

Journal Articles

[1] T.-H. Vu, T.-T. Nguyen, **Q.-V. Pham**, D. B. da Costa, and S. Kim, "A Novel Partial Decode-and-Amplify NOMA-Inspired Relaying Protocol for Uplink Short-Packet Communications," *IEEE Wireless Communications Letters*, in press.

[2] N. Iradukunda, **Q.-V. Pham**, Z. Ding, and W.-J. Hwang, "THz-Enabled UAV Communications using Non-Orthogonal Multiple Access," *IEEE Transactions on Vehicular Technology*, in press.

[3] C. de Alwis, P. Kumar, **Q.-V. Pham**, K. Dev, A. Kalla, M. Liyanage, and W.-J. Hwang, "Towards 6G: Key Technological Directions," *ICT Express*, in press.

[4] M.-D. Nguyen, S.-M. Lee, **Q.-V. Pham**, H. T. Dinh, D. N. Nguyen, and W.-J. Hwang, "HCFL: A High Compression Approach for Communication-Efficient Federated Learning in Very Large Scale IoT Networks," *IEEE Transactions on Mobile Computing*, in press.

[5] Y. M. Saputra, D. N. Nguyen, H. T. Dinh, **Q.-V. Pham**, E. Dutkiewicz, and W.-J. Hwang, "Federated Learning Framework with Straggling Mitigation and Privacy-Awareness for AI-based Mobile Application Services," *IEEE Transactions on Mobile Computing*, in press.

[6] M. Gheisari, A. Javadpour, J. Gao, A. A. Abbasi, **Q.-V. Pham**, and Y. Liu, "PPDMIT: a lightweight architecture for privacy-preserving data aggregation in the Internet of Things" *Journal of Ambient Intelligence and Humanized Computing*, in press.

[7] T. Huynh-The, T. R. Gadekallu, W. Wang, G. Yenduri, P. Ranaweera, **Q.-V. Pham**, D. B. da Costa, and M. Liyanage, "Blockchain for the Metaverse: A Review," *Future Generation Computer Systems*, vol. 143, pp. 401-419, Jun. 2023.

[8] T.-H. Vu, T.-V. Nguyen, **Q.-V. Pham**, D. B. da Costa, and S. Kim, "Short-Packet Communications in UAV-Based NOMA Systems under Imperfect CSI and SIC," *IEEE Transactions on Cognitive Communications and Networking*, vol. 9, no. 2, pp. 463-478, Apr. 2023.

[9] **Q.-V. Pham**, M. Zeng, O. A. Dobre, Z. Ding, and L. Song, "Guest Editorial Special Issue on Aerial Computing for the Internet of Things (IoT)," *IEEE Internet of Things Journal*, vol. 10, no. 7, pp. 5623-5625, Apr. 2023.

[10] T.-H. Vu, T.-V. Nguyen, **Q.-V. Pham**, D. B. da Costa, and S. Kim, "Hybrid Long-and Short-Packet Based NOMA Systems with Joint Power Allocation and Beamforming Design," *IEEE Transactions on Vehicular Technology*, vol. 72, no. 3, pp. 4079-4084, Mar. 2023.

[11] T. Huynh-The, T.-V. Nguyen, **Q.-V. Pham**, V.-S. Doan, D. B. da Costa, K.-H. Kwon, and D.-S. Kim, "Efficient Convolutional Networks for Robust Automatic Modulation Classification in OFDM-Based Wireless Systems," *IEEE Systems Journals*, vol. 17, no. 1, pp. 964-975, Mar. 2023.

[12] W. Wang, F. H. Memon, Z. Lian, H. Xu, T. R. Gadekallu, **Q.-V. Pham**, K. Dev, and C. Su, "Secure-Enhanced Federated Learning for AI-Empowered Electric Vehicle Energy Prediction," *IEEE Consumer Electronics Magazine*, vol. 12, no. 2, pp. 27-34, Mar. 2023.

[13] T. Huynh-The, **Q.-V. Pham**, X.-Q. Pham, T. T. Nguyen, Z. Han, and D.-S. Kim, "Artificial Intelligence for the Metaverse: A Survey," *Engineering Applications of Artificial Intelligence*, vol. 117, pp. 105581, Jan. 2023.

[14] H. Dang-Ngoc, D. N. Nguyen, K. Ho-Van, H. T. Dinh, E. Dutkiewicz, **Q.-V. Pham**, and W.-J. Hwang, "Secure Swarm UAV-assisted Communications with Cooperative Friendly Jamming," *IEEE Internet of Things Journal*, vol. 9, no. 24, pp. 25596-25611, 15 Dec. 2022.

[15] D.-I. Noh, **Q.-V. Pham** et al., "Signal Preprocessing Technique With Noise-Tolerant for RF-Based UAV Signal Classification," *IEEE Access*, vol. 10, pp. 134785-134798, Dec. 2022.

[16] S. K. Jagatheesaperumal, **Q.-V. Pham**, R. Ruby, Z. Yang, C. Xu, and Z. Zhang, "Explainable AI over the Internet of Things (IoT): Overview, State-of-the-Art and Future Directions," *IEEE Open Journal of the Communications Society*, vol. 3, pp. 2106-2136, Nov. 2022.

[17] P. K. R. Maddikunta, **Q.-V. Pham**, D. C. Nguyen, T. Huynh-The, O. Aouedi, G. Yenduri, S. Bhattacharya, and T. R. Gadekallu, "Incentive techniques for the Internet of Things: A survey," *Journal of Network and Computer Applications*, vol. 206, pp. 103464, Oct. 2022.

[18] A. S. Sadiq, A. A. Dehkordi, S. Mirjalili, and **Q.-V. Pham**, "Nonlinear Marine Predator Algorithm: A Cost-effective Optimizer for Fair Power Allocation in NOMA-VLC-B5G Network," *Expert Systems with Applications*, vol. 203, pp. 117395, Oct. 2022.

[19] T. T. Nguyen, Q. V. H. Nguyen, D. T. Nguyen, D. T. Nguyen, T. Huynh-The, S. Nahavandi, T. T. Nguyen, **Q.-V. Pham**, and C. M.Nguyen, "Deep learning for deepfakes creation and detection: A survey," *Computer Vision and Image Understanding*, vol. 233, pp. 103525, Oct. 2022.

[20] J. Jiang, F. Liu, W. W. Y. Ng, Q. Tang, W. Wang, and **Q.-V. Pham**, "Dynamic Incremental Ensemble Fuzzy Classifier for Data Streams in Green Internet of Things," *IEEE Transactions on Green Communications and Networking*, vol. 6, no. 3, pp. 1316-1329, Sep. 2022.

[21] G. Gür, A. Kalla, C. de Alwis, **Q.-V. Pham**, K.-H. Ngo, M. Liyanage, and P. Porambage, "Integration of ICN and MEC in 5G and Beyond Networks: Mutual Benefits, Use Cases, Challenges, Standardization, and Future Research," *IEEE Open Journal of the Communications Society*, vol. 3, pp. 1382-1412, Aug. 2022.

[22] C. T. Nguyen, N. V. Huynh, N. H. Chu, Y. M. Saputra, H. T. Dinh, D. N. Nguyen, **Q.-V. Pham**, D. Niyato, E. Dutkiewicz, and W.-J. Hwang, "Transfer Learning for Wireless Networks: A Comprehensive Survey" *Proceedings of the IEEE*, vol. 110, no. 8, pp. 1073-1115, Aug. 2022.

[23] P. Boopalan, S. P. Ramu, **Q.-V. Pham**, K. Dev, S. Pandya, P. K. R. Maddikunta, T. R. Gadekallu, and T. Huynh-The, "Fusion of Federated Learning and Industrial Internet of Things: A Survey," *Computer Networks*, vol. 212, pp. 109048, Jul. 2022.

[24] M. Liyanage, **Q.-V. Pham**, K. Dev, S. Bhattacharya, P. K. R. Maddikunta, T. R. Gadekallu, and G. Yenduri, "A Survey on Zero Touch Network and Service Management (ZSM) for 5G and Beyond Networks," *Journal of Network and Computer Applications*, vol. 131, pp. 209-226, Jul. 2022.

[25] **Q.-V. Pham**, R. Ruby, F. Fang, D. C. Nguyen, Z. Yang, M. Le, Z. Ding, and W.-J. Hwang, "Aerial Computing: A New Computing Paradigm, Applications, and Challenges," *IEEE Internet of Things Journal*, vol. 9, no. 11, pp. 8339-8363, Jun. 2022.

[26] T. Huynh-The, T.-V. Nguyen, **Q.-V. Pham**, D. B. da Costa, and D.-S. Kim, "MIMO-OFDM Modulation Classification Using Three-Dimensional Convolutional Network," *IEEE Transactions on Vehicular Technology*, vol. 71, no. 6, pp. 6738-6743, Jun. 2022.

[27] M. Le, **Q.-V. Pham**, H.-C. Kim, and W.-J. Hwang, "Enhanced Resource Allocation in D2D Communications with NOMA and Unlicensed Spectrum," *IEEE Systems Journal*, vol. 16, no. 2, pp. 2856-2866, Jun. 2022.

[28] T. Huynh-The, **Q.-V. Pham**, T.-V. Nguyen, T. T. Nguyen, D. B. da Costa, and D.-S. Kim, "RanNet: Learning Residual-Attention Structure in CNNs for Automatic Modulation Classification," *IEEE Wireless Communications Letters*, vol. 11, no. 6, pp. 1243-1247, Jun. 2022.

[29] B. K. Tripathy, P. K. R. Maddikunta, **Q.-V. Pham**, T. R. Gadekallu, K. Dev, S. Pandya, and B. M. ElHalawany, "Harris Hawk Optimization: A Survey on Variants and Applications," *Computational Intelligence and Neuroscience*, vol. 2022, Jun. 2022.

[30] N. Deepa, **Q.-V. Pham**, D. C. Nguyen, S. Bhattacharya, B. Prabadevi, T. R. Gadekallu, P. K. R. Maddikunta, F. Fang, and P. N. Pathirana, "A Survey on Blockchain for Big Data: Approaches, Opportunities, and Future Directions," *Future Generation Computer Systems*, vol. 131, pp 209-226, Jun. 2022.

[31] **Q.-V. Pham**, M. Zeng, T. Huynh-The, Z. Han, and W.-J. Hwang, "Aerial Access Networks for Federated Learning: Applications and Challenges," *IEEE Network*, vol. 36, no. 3, pp. 159-166, May/Jun. 2022.

[32] S. A. Khowaja, K. Dev, P. Khuwaja, **Q.-V. Pham**, N. M. F. Qureshi, P. Bellavista, and M. Magarini, "IIFNet: A Fusion based Intelligent Service for Noisy Preamble Detection in 6G," *IEEE Network*, vol. 36, no. 3, pp. 48-54, May/Jun. 2022.

[33] **Q.-V. Pham**, M. Le, T. Huynh-The, Z. Han, and W.-J. Hwang, "Energy-Efficient Federated Learning over UAV-enabled Wireless Powered Communications," *IEEE Transactions on Vehicular Technology*, vol. 71, no. 5, pp. 4977-4990, May 2022.

[34] T. Huynh-The, **Q.-V. Pham**, T.-V. Nguyen, D. B. da Costa, and D.-S. Kim, "RF-UAVNet: High-Performance Convolutional Network for RF-based Drone Surveillance Systems," *IEEE Access*, vol. 10, pp. 49696-49707, May 2022.

[35] M. Alazab, S. P. Ramu, P. Boopalan, P. K. R. Maddikunta, T. R. Gadekallu, and **Q.-V. Pham**, "Federated Learning for Cybersecurity: Concepts, Challenges and Future Directions," *IEEE Transactions on Industrial Informatics*, vol. 18, no. 5, pp. 3501-3509, May 2022.

[36] H. Yang, R. Ruby, **Q.-V. Pham**, and K. Wu, "Aiding a Disaster Spot via Multi-UAV-based IoT Networks: Energy and Mission Completion Time-Aware Trajectory Optimization," *IEEE Internet of Things Journal*, vol. 9, no. 8, pp. 5853-5867, Apr. 2022.

[37] R. Ruby, **Q.-V. Pham**, K. Wu, A. A. Heidari, H. Chen, and B. M. ElHalawany, "Enhancing Secrecy Performance of Cooperative NOMA-Based IoT Networks via Multiantenna-Aided Artificial Noise," *IEEE Internet of Things Journal*, vol. 9, no. 7, pp. 5108-5127, Apr. 2022.

[38] S. K. Sahu, D. P. Mohapatra, J. K. Rout, K. S. Sahoo, **Q.-V. Pham**, and N.-N. Dao, "A LSTM-FCNN based Multi-class Intrusion Detection using Scalable Framework," *Computers and Electrical Engineering*, vol. 99, no. 5, pp. 107720, Apr. 2022.

[39] S. P. Ramu, P. Boopalan, **Q.-V. Pham**, P. K. R. Maddikunta, T. Huynh-The, T. T. Nguyen, M. Alazab, and T. R. Gadekallu, "Federated learning enabled digital twins for smart cities: Concepts, recent advances, and future directions," *Sustainable Cities and Society*, vol. 79, pp. 103663, Apr. 2022.

[40] D. C. Nguyen, **Q.-V. Pham**, P. N. Pathirana, M. Ding, A. Seneviratne, J. Lin, O. A. Dobre, and W.-J. Hwang, "Federated Learning for Smart Healthcare: A Survey," *ACM Computing Surveys*, vol. 55, no. 3, pp. 1-37, Apr. 2022.

[41] B. M. ElHalawany, A. A. A. El-Banna, **Q. -V. Pham**, K. Wu, and E. M. Mohamed, "Spectrum Sharing in Cognitive-Radio Inspired NOMA Systems under Imperfect SIC and Co-Channel Interference," *IEEE Systems Journal*, vol. 16, no. 1, pp. 1540-1547, Mar. 2022.

[42] P. K. R. Maddikunta, **Q.-V. Pham**, B. Prabadevi, N. Deepa, K. Dev, T. R. Gadekallu, R. Ruby, and M. Liyanage, "Industry 5.0: A Survey on Enabling Technologies and Potential Applications," *Journal of Industrial Information Integration*, vol. 26, pp. 100257, Mar. 2022.

[43] H. Ta, **Q-V. Pham**, K. Ho-Van, and S. W. Kim, "Covert communication with noise and channel uncertainties," *Wireless Networks*, vol. 28, no. 1, pp. 161-172, Jan. 2022.

[44] T.-T. Dao, **Q.-V. Pham**, and W.-J. Hwang, "FastMDE: A Fast CNN Architecture for Monocular Depth Estimation at High Resolution," *IEEE Access*, vol. 10, pp. 16111-16122, Jan. 2022.

[45] T. R. Gadekallu, **Q.-V. Pham**, D. C. Nguyen, P. K. R. Maddikunta, N. Deepa, B. Prabadevi, P. N. Pathirana, J. Zhao, and W.-J. Hwang, "Blockchain for Edge of Things: Applications, Opportunities, and Challenges," *IEEE Internet of Things Journal*, vol. 9, no. 2, pp. 964-988, Jan. 2022.

[46] Q. V. Do, **Q.-V. Pham**, and W.-J. Hwang, "Deep Reinforcement Learning for Energy-Efficient Federated Learning in UAV-Enabled Wireless Powered Networks," *IEEE Communications Letters*, vol. 26, no. 1, pp. 99-103, Jan. 2022.

[47] S. Ramasubbareddy, S. Ramasamy, K. S. Sahoo, R. L. Kumar, **Q.-V. Pham**, and N.-N. Dao, "CAVMS: Application-Aware Cloudlet Adaption and VM Selection Framework for Multi-Cloudlet Environment," *IEEE Systems Journal*, vol. 15, no. 4, pp. 5098-5106, Dec. 2021.

[48] L. Nkenyereye, L. Nkenyereye, **Q.-V. Pham**, and J. S. Song, "Efficient RSU Selection Scheme for Fog-Based Vehicular Software-Defined Network," *IEEE Transactions on Vehicular Technology*, vol. 70, no. 11, pp. 12126-12141, Nov. 2021.

[49] H. Han, J. Zhao, W. Zhai, Z. Xiong, D. Niyato, M. D. Renzo, **Q.-V. Pham**, W. Lu, and K.-Y. Lam, "Reconfigurable Intelligent Surface Aided Power Control for Physical-Layer Broadcasting," *IEEE Transactions on Communications*, vol. 69, no. 11, pp. 7821-7836, Nov. 2021.

[50] S. Agrawal, S. Sarkar, M. Alazab, P. K. R. Maddikunta, T. R. Gadekallu, **Q.-V. Pham**, "Genetic CFL: Hyperparameter Optimization in Clustered Federated Learning," *Computational Intelligence and Neuroscience*, vol. 2021, Nov. 2021.

[51] T. Huynh-The, **Q.-V. Pham**, T.-V. Nguyen, T. T. Nguyen, R. Ruby, M. Zeng, and D.-S. Kim, "Automatic Modulation Classification: A Deep Architecture Survey," *IEEE Access*, vol. 9, pp. 142950-142971, Oct. 2021.

[52] **Q.-V. Pham**, D. C. Nguyen, S. Mirjalili, H. T. Dinh, D. N. Nguyen, P. N. Pathirana, and W.-J. Hwang, "Swarm Intelligence for Next-Generation Networks: Recent Advances and Applications," *Journal of Network and Computer Applications*, vol. 191, pp. 103141, Oct. 2021.

[53] T. Huynh-The, C.-H. Hua, V.-S. Doan, **Q.-V. Pham**, and D.-S. Kim, "Accurate Deep CNN-based Waveform Recognition for Intelligent Radar Systems," *IEEE Communications Letters*, vol. 25, no. 9, pp. 2938-2942, Sep. 2021.

[54] D. C. Nguyen, M. Ding, **Q.-V. Pham**, P. N. Pathirana, L. B. Le, A. Seneviratne, J. Li, D. Niyato, and H. V. Poor, "Federated Learning Meets Blockchain in Edge Computing: Opportunities and Challenges," *IEEE Internet of Things Journal*, vol. 8, no. 16, pp. 12806-12825, Aug. 2021.

[55] P. K. R. Maddikunta, S. Hakak, M. Alazab, S. Bhattacharya, T. R. Gadekallu, W. Z. Khan, and **Q.-V. Pham**, "Unmanned Aerial Vehicles in Smart Agriculture: Applications, Requirements and Challenges," *IEEE Sensors Journal*, vol. 21, no. 6, pp. 17608-17619, Aug. 2021.

[56] T. Huynh-The, V.-S. Doan, C.-H. Hua, **Q.-V. Pham**, T.-V. Nguyen, and D.-S. Kim, "Accurate LPI Radar Waveform Recognition with CWD-TFA for Deep Convolutional Network," *IEEE Wireless Communications Letters*, vol. 10, no. 8, pp. 1638-1642, Aug. 2021.

[57] R. L. Kumar, **Q.-V. Pham**, F. Khan, M. J. Piran, and K. Dev, "Blockchain for Securing Aerial Communications: Potentials, Solutions, and Research Directions," *Physical Communication*, vol. 47, pp. 101390, Aug. 2021

[58] L. Nkenyereye, J. Y. Hwang, **Q.-V. Pham**, and J. S. Song, "Virtual IoT Service Slice Functions for Multi-Access Edge Computing Platform," *IEEE Internet of Things Journal*, vol. 8, no. 14, pp. 11233-11248, Jul. 2021.

[59] **Q.-V. Pham**, N. T. Nguyen, T. Huynh-The, L. B. Le, K. Lee, and W.-J. Hwang, "Intelligent Radio Signal Processing: A Survey," *IEEE Access*, vol. 9, pp. 83818-83850, Jun. 2021.

[60] B. Prabadevi, N. Deepa, **Q.-V. Pham**, D. C. Nguyen, P. K. R. Maddikunta, T. R. Gadekallu, P. N. Pathirana, and O. Dobre, "Toward Blockchain for Edge-of-Things: A New Paradigm, Opportunities, and Future Directions," *IEEE Internet of Things Magazine*, vol. 4, no. 2, pp. 102-108, Jun. 2021.

[61] L. Nkenyereye, J. Y. Hwang, **Q.-V. Pham**, and J. S. Song, "MEIX: Evolving Multi-Access Edge Computing for Industrial Internet-of-Things Services," *IEEE Network*, vol. 35, no. 3, pp. 147-153, May/Jun. 2021.

[62] M. Zeng, E. B. Mohamed, O. A. Dobre, P. Fortier, **Q.-V. Pham**, and W. Hao, "Energy-Efficient Resource Allocation for IRS-Assisted Multi-Antenna Uplink Systems," *IEEE Wireless Communications Letters*, vol. 10, no. 6, pp. 1261-1265, Jun. 2021.

[63] **Q.-V. Pham**, N. Iradukunda, Nguyen H. Tran, W.-J. Hwang, and S.-W. Chung, "Joint Placement, Power Control, and Spectrum Allocation for UAV Wireless Backhaul Networks," *IEEE Networking Letters*, vol. 3, no. 2, pp. 56-60, Jun. 2021.

[64] N.-N. Dao, **Q.-V. Pham**, N. H. Tu, T. T. Thanh, V. N. Q. Bao, D. S. Lakew, and S. Cho, "Survey on Aerial Radio Access Networks: Toward a Comprehensive 6G Access Infrastructure," *IEEE Communications Surveys and Tutorials*, vol. 23, no. 2, pp. 1193-1225, Second Quarter 2021.

[65] **Q.-V. Pham**, M. Zeng, R. Ruby, T. Huynh-The, and W.-J. Hwang, "UAV Communications for Sustainable Federated Learning," *IEEE Transactions on Vehicular Technology*, vol. 70, no. 4, pp. 3944-3948, Apr. 2021.

[66] C. de Alwis, A. Kalla, **Q.-V. Pham**, P. Kumar, K. Dev, W.-J. Hwang, and M. Liyanage, "Survey on 6G Frontiers: Trends, Applications, Requirements, Technologies and Future Research," *IEEE Open Journal of the Communications Society*, vol. 2, pp. 836-886, Apr. 2021.

[67] N.-N. Dao, **Q.-V. Pham**, D.-T. Do, S. Dustdar, "The Sky is the Edge—Toward Mobile Coverage from the Sky," *IEEE Internet Computing*, vol. 25, no. 2, pp. 101-108, Mar.-Apr. 2021.

[68] N. Iradukunda, **Q.-V. Pham**, M. Zeng, H.-C. Kim, and W.-J. Hwang, "UAV-enabled Wireless Backhaul Networks using Non-Orthogonal Multiple Access," *IEEE Access*, vol. 9, pp. 36689-36698, Feb. 2021.

[69] M. Alazab, K. Lakshmanna, T. R. Gadekallu, **Q.-V. Pham**, and P. K. R. Maddikunta, "Multi-Objective Cluster Head Selection using Fitness Averaged Rider Optimization Algorithm for IoT Networks in Smart Cities," *Sustainable Energy Technologies and Assessments*, vol. 43, pp. 100973, Feb. 2021.

[70] S. Bhattacharya, P. K. R. Maddikunta, **Q.-V. Pham**, T. R. Gadekallu, S. R. Krishnan S, C. L. Chowdhary, M. Alazab, and M. J. Piran, "Deep Learning and Medical Image Processing for Coronavirus (COVID-19) Pandemic: A Survey," *Sustainable Cities and Society*, vol. 65, pp. 102589, Feb. 2021.

[71] F. Figueiredo, M. Facina, R. Ferreira, R. Ruby, **Q.-V. Pham**, and G. Fraidenraich, "Large Intelligent Surfaces with Discrete Set of Phase-Shifts Communicating Through Double-Rayleigh Fading Channels," *IEEE Access*, vol. 9, pp. 20768-20787, Jan. 2021.

[72] L. N. T. Huynh, **Q.-V. Pham**, T.D.T. Nguyen, M. D. Hossain, Y.-R. Shin, and E.-N. Huh, "Joint Computational Offloading and Data-Content Caching in NOMA-MEC Networks," *IEEE Access*, vol. 9, pp. 12943-12954, Jan. 2021.

[73] T.-T. Nguyen, V.-D. Nguyen, **Q.-V. Pham**, and J.-H. Lee, and Y.-H. Kim, "Resource Allocation for AF Relaying Wireless-powered Networks with Nonlinear Energy Harvester," *IEEE Communications Letters*, vol. 25, no. 1, pp. 229-233, Jan. 2021.

[74] J. Tu, H. Chen, J. Liu, A. A. Heidari, X. Zhang, M. Wang, R. Ruby, and **Q.-V. Pham**, "Evolutionary Biogeography-based Whale Optimization Methods with Communication Structure: Towards Measuring the Balance," *Knowledge-based Systems*, vol. 212, pp. 106642, Jan. 2021.

[75] M. J. Piran, **Q.-V. Pham**, S. M. Riazul Islam, S. Cho, B. Bae, D.-Y. Suh, and Z. Han, "Multimedia Communication over Cognitive Radio Networks from QoS/QoE Perspective: A Comprehensive Survey," *Journal of Network and Computer Applications*, vol. 172, no. 10, pp. 102759, Dec. 2020.

[76] T.-T. Nguyen, **Q.-V. Pham**, V.-D. Nguyen, J.-H. Lee, and Y.-H. Kim, "Resource Allocation for Energy Efficiency in OFDMA-Enabled WPCN," *IEEE Wireless Communications Letters*, vol. 9, no. 12, pp. 2049-2053, Dec. 2020.

[77] C. T. Nguyen, **Q.-V. Pham**, H.-G. T. Pham, N.-N. Dao, and W.-J. Hwang, "Computation Offloading in Cognitive Radio NOMA-enabled Multi-Access Edge Computing Systems," *IET Communications*, vol. 14, no. 19, pp. 3404–3409, Dec. 2020.

[78] F. Fang, Y. Xu, **Q.-V. Pham**, and Z. Ding, "Energy-Efficient Design of IRS-NOMA Networks," *IEEE Transactions on Vehicular Technology*, vol. 69, no. 11, pp. 14088-14092, Nov. 2020.

[79] H.-T. Hoang, **Q.-V. Pham**, and W.-J. Hwang, "Spatial-Temporal-DBSCAN-Based User Clustering and Power Allocation for Sum Rate Maximization in Millimeter-Wave NOMA Systems," *Symmetry*, vol. 12, no. 11, pp. 1-12, Nov. 2020.

[80] S. U. Taki, A. Chakrabarty, M. J. Piran, **Q.-V. Pham**, and D.-Y. Suh, "An Indoor Positioning and Navigation System using Named Data Networking," *IEEE Access*, vol. 8, pp. 196408-196424, Nov. 2020.

[81] H.-G. T. Pham, **Q.-V. Pham**, A. T. Pham, and C. T. Nguyen, "Joint Task Offloading and Resource Management in NOMA-based MEC Systems: A Swarm Intelligence Approach," *IEEE Access*, vol. 8, pp. 190463-190474, Oct. 2020.

[82] **Q.-V. Pham**, T. Huynh-The, M. Alazab, J. Zhao, and W.-J. Hwang, "Sum-Rate Maximization for UAV-assisted Visible Light Communications using NOMA: Swarm Intelligence meets Machine Learning," *IEEE Internet of Things Journal*, vol. 7, no. 10, pp. 10375-10387, Oct. 2020.

[83] **Q.-V. Pham**, D. C. Nguyen, T. Huynh-The, W.-J. Hwang, and P. N. Pathirana, "Artificial Intelligence (AI) and Big Data for Coronavirus (COVID-19) Pandemic: A Survey on the State-of-the-Arts," *IEEE Access*, vol. 8, pp. 130820 -130839, Jul. 2020.

[84] R. Vinayakumar, M. Alazab, S. Srinivasan, **Q.-V. Pham**, S. K. Padannayil, and K. Simran, "A Visualized Botnet Detection System based Deep Learning for the Internet of Things Networks of Smart Cities," *IEEE Transactions on Industry Applications*, vol. 56, no. 4, pp. 4436-4456, Jul.-Aug. 2020.

[85] **Q.-V. Pham**, F. Fang, V. N. Ha, M. J. Piran, M. Le, L. B. Le, W.-J. Hwang, and Z. Ding, "A Survey of Multi-Access Edge Computing in 5G and Beyond: Fundamentals, Technology Integration, and State-of-the-Art," *IEEE Access*, vol. 8, pp. 116974-117017, Jun. 2020.

[86] N. Maurice, **Q.-V. Pham**, and W.-J. Hwang, "Online Computation Offloading in NOMA-based Multi-Access Edge Computing: A Deep Reinforcement Learning Approach," *IEEE Access*, vol. 8, pp. 99098-99109, May 2020.

[87] M. Alazab, S. Khan, S. R. Krishnan S, **Q.-V. Pham**, P. K. Reddy M, and T. R. Gadkallu "A Multidirectional LSTM Model for Predicting the Stability of a Smart Grid," *IEEE Access*, vol. 8, pp. 85454-85463, Apr. 2020.

[88] **Q.-V. Pham**, S. Mirjalili, N. Kumar, M. Alazab, and W.-J. Hwang, "Whale Optimization Algorithm with Applications to Resource Allocation in Wireless Networks," *IEEE Transactions on Vehicular Technology*, vol. 69, no. 4, pp. 4285-4297, Apr. 2020.

[89] T. Huynh-The, C.-H. Hua, **Q.-V. Pham**, and D.-S. Kim, "MCNet: An Efficient CNN Architecture for Robust Automatic Modulation Classification," *IEEE Communications Letters*, vol. 24, no. 4, pp. 811-815, Apr. 2020.

[90] **Q.-V. Pham**, Hoang T. Nguyen, Z. Han, and W.-J. Hwang, "Coalitional Games for Computation Offloading in NOMA-Enabled Multi-Access Edge Computing," *IEEE Transactions on Vehicular Technology*, vol. 69, no. 2, pp. 1982-1993, Feb. 2020.

[91] L. N. T. Huynh, **Q.-V. Pham**, X.-Q. Pham, T.D.T. Nguyen, M. D. Hossain, and E.-N. Huh, "Efficient Computation Offloading in Multi-Tier Multi-Access Edge Computing Systems: A Particle Swarm Optimization Approach," *Applied Sciences*, vol. 10, no. 1, pp. 1-17, Jan. 2020.

[92] T.-H. Vo, Z. Ding, **Q.-V. Pham**, and W.-J. Hwang, "Access Control and Pilot Allocation for Machine-Type Communications in Crowded Massive MIMO Systems," *Symmetry*, vol. 11, no. 10, pp. 1-11, Oct. 2019.

[93] M. Gheisari, **Q.-V. Pham**, M. Alazab, X. Zhang, C. Fernandez-Campusano, and G. Srivastava, "ECA: An Edge Computing Architecture for Privacy-Preserving in IoT-based Smart City," *IEEE Access*, vol. 7, pp. 155779-155786, Aug. 2019.

[94] J.-W. Ryu, **Q.-V. Pham**, L. N. T. Huynh, W.-J. Hwang, J.-D. Kim, and J.-T. Lee, "Multi-Access Edge Computing Empowered Heterogeneous Networks: A Novel Architecture and Potential Works," *Symmetry*, vol. 11, no. 7, Jul. 2019.

[95] G. G. Girmay, **Q.-V. Pham**, and W.-J. Hwang, "Joint Channel and Power Allocation for D2D on Licensed and Unlicensed Band," *IEEE Access*, vol. 7, pp. 22196-22205, Feb. 2019.

[96] **Q.-V. Pham**, L. B. Le, S.-H. Chung, and W.-J. Hwang, "Mobile Edge Computing with Wireless Backhaul: Joint Task Offloading and Computation Resource," *IEEE Access*, vol. 7, pp. 16444-16459, Jan. 2019.

[97] **Q.-V. Pham**, T. LeAnh, N. H. Tran, B. J. Park, and C. S. Hong, "Decentralized Computation Offloading and Resource Allocation for Mobile-Edge Computing: A Matching Game Approach," *IEEE Access*, vol. 6, pp. 75 868–75 885, Nov. 2018.

[98] **Q.-V. Pham** and W.-J. Hwang, "Energy-Efficient Power Control for Uplink Spectrum-Sharing Heterogeneous Networks," *International Journal of Communication Systems*, vol. 31, no. 14, pp. e3717, Jul. 2018.

[99] **Q.-V. Pham** and W.-J. Hwang, "alpha-Fairness Resource Allocation in Non-Orthogonal Multiple Access Systems," *IET Communications*, vol. 12, no. 2, pp. 179-183, Jan. 2018.

[100] **Q.-V. Pham** and W.-J. Hwang, "Fairness-Aware Spectral and Energy Efficiency in Spectrum-Sharing Wireless Networks," *IEEE Transactions on Vehicular Technology*, vol. 66, no. 11, pp. 10207-10219, Nov. 2017.

[101] **Q.-V. Pham** and W.-J. Hwang, "Network Utility Maximization based Congestion Control over Wireless Networks: A Survey and Potential Directives," *IEEE Communications Surveys and Tutorials*, vol. 19, no. 2, pp. 1173-1200, Second Quarter 2017.

[102] **Q.-V. Pham** and W.-J. Hwang, "Network Utility Maximization in Multipath Lossy Wireless Networks," *International Journal of Communication Systems*, vol. 30. no. 5, pp.1-18, Mar. 2017.

[103] F. Boabang, H. Nguyen, **Q.-V. Pham**, and W.-J. Hwang, "Network-assisted Distributed Fairness-aware Interference Coordination for Device to Device Communication Underlaid Cellular networks," *Mobile Information Systems*, vol. 2017, pp. 1-11, 2017.

[104] **Q.-V. Pham** and W.-J. Hwang, "Resource Allocation for Heterogeneous Traffic in Complex Communication Networks," *IEEE Transactions on Circuits and Systems II: Express Briefs*, vol. 63, no. 10, pp. 959-963, Oct. 2016.

[105] **Q.-V. Pham**, H. To, and W.-J. Hwang, "A Multi-Timescale Cross-Layer Approach for Wireless Ad Hoc Networks," *Computer Networks*, vol. 18, pp. 471-482, Sep. 2015.

Domestic Journal Articles

[1] A. Azizan, **Q.-V. Pham**, H. S. Young, K. J. Eon, K. Hoon, P. Junseok, and W.-J. Hwang, "Healthcare System using Pegged Blockchain considering Scalability and Data Privacy," *Journal of Korea Multimedia Society*, vol. 22, no. 5, pp. 613-625, May 2019.

[2] H.-T. Hoang, **Q.-V. Pham**, J. E. Kim, H. Kim, P. Junseok, and W.-J. Hwang, "Unsupervised Outpatients Clustering: A Case Study in Avissawella Base Hospital, Sri Lanka," *Journal of Korea Multimedia Society*, vol. 22, no. 4, pp. 480-490, Apr. 2019.

[3] **Q.-V. Pham**, H. Kim, and W.-J. Hwang, "Globally Optimal Solutions for Cross-Layer Design in Fast-Fading Lossy Delay-Constrained MANETs," *Journal of Korea Multimedia Society*, vol. 18, no. 2, pp. 168-177, Feb. 2015.

International Conferences

[1] T. Huynh-The, **Q.-V. Pham**, T.-H. Vu, D. B. da Costa, and V.-P. Hoang, "Intelligent Spectrum Sensing with ConvNet for 5G and LTE Signals Identification," *IEEE Statistical Signal Processing Workshop (SSP)*, Hanoi, Vietnam, Jul. 2023.

[2] T. Huynh-The, **Q.-V. Pham**, T.-V. Nguyen, D. B. da Costa, and V.-P. Hoang, "An Efficient Deep Network for Modulation Classification in Impaired MIMO-OFDM Systems," *IEEE Statistical Signal Processing Workshop (SSP)*, Hanoi, Vietnam, Jul. 2023.

[3] T.-H. Vu, K.-T. Nguyen, **Q.-V. Pham**, T. Huynh-The, D. B. da Costa, V. N. Q. Bao, and S. Kim, "Outage Performance of THz-aided NOMA Systems with Spherical Stochastic Model," *IEEE Statistical Signal Processing Workshop (SSP)*, Hanoi, Vietnam, Jul. 2023.

[4] M.-D. Nguyen, X.-T. Nguyen, H.-S. Luong, **Q.-V. Pham**, Q. V. Do, and W.-J. Hwang, "FFD: A Full-Stack Federated Distillation method for Heterogeneous Massive IoT Networks," in *IEEE International Conference on Advanced Technology for Communications (ATC)*, Hanoi, Vietnam, Oct. 2022.

[5] M.-D. Nguyen, **Q.-V. Pham**, M. Le, and W.-J. Hwang, "Semantic Graph Multi-agent Reinforcement Learning," in *International Conference on Multimedia Information Technology and Applications (MITA)*, Jeju Island, Korea, Jul. 2022.

[6] S.-M. Lee, **Q.-V. Pham**, M.-D. Nguyen, and W.-J. Hwang, "Model Parameter Compression Scheme using Dimension Reduction in Federated Learning," in *International Conference on Multimedia Information Technology and Applications (MITA)*, Jeju Island, Korea, Jul. 2022.

[7] **Q.-V. Pham**, M. Le, T. Huynh-The, Z. Han, and W.-J. Hwang, "UAV-enabled Wireless Powered Communication for Energy-Efficient Federated Learning," in *IEEE International Conference on Communications (ICC)*, Seoul, Korea, May 2022.

[8] T. Huynh-The, **Q.-V. Pham**, T.-V. Nguyen, D. B. da Costa, and D.-S. Kim, "RaComNet: High-Performance Deep Network for Waveform Recognition in Coexistence Radar-Communication Systems," in *IEEE International Conference on Communications (ICC)*, Seoul, Korea, May 2022.

[9] T. Huynh-The, **Q.-V. Pham**, T.-V. Nguyen, D. B. da Costa, and D.-S. Kim, "Automatic Modulation Classification with Low-Cost Attention Network for Impaired OFDM Signals," in *IEEE Wireless Communications and Networking Conference (WCNC)*, Austin, TX, USA, Apr. 2022.

[10] T. Huynh-The, **Q.-V. Pham**, T.-V. Nguyen, V.-S. Doan, N. T. Nguyen, D. B. da Costa, and D.-S. Kim, "Densely-Accumulated Convolutional Network for Accurate LPI Radar Waveform Recognition," in *IEEE Global Communications Conference (GLOBECOM)*, Madrid, Spain, Dec. 2021.

[11] T. Huynh-The, **Q.-V. Pham**, T.-V. Nguyen, X.-Q. Pham, and D.-S. Kim, "Deep Learning-based Automatic Modulation Classification for Wireless OFDM Communications," in *International Conference on Information and Communication Technology Convergence (ICTC)*, Jeju, Korea, Oct. 2021.

[12] T. Huynh-The, **Q.-V. Pham**, T.-V. Nguyen, and D.-S. Kim, "Deep Learning for Coexistence Radar-Communication Waveform Recognition," in *International Conference on Information and Communication Technology Convergence (ICTC)*, Jeju, Korea, Oct. 2021.

[13] R. Ruby, H. Yang, **Q.-V. Pham**, and K. Wu, "Delay Performance of UAV-Based Buffer-Aided Relay Networks under Bursty Traffic: Mobile or Static?," in *IEEE International Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM)*, Pisa, Italy, Jun. 2021.

[14] H. Xu, G. Zhang, J. Zhao, and **Q.-V. Pham**, "Intelligent reflecting surface aided wireless networks: Harris Hawks optimization for beamforming design," in *IEEE 6th International Conference on Computer and Communications (ICCC)*, Sichuan, China, Dec. 2020.

[15] V.-S. Doan, T. Huynh-The, C.-H. Hua, **Q.-V. Pham**, and D.-S. Kim, "Chain-Net: Learning Deep Model for Modulation Classification Under Synthetic Channel Impairment," in *IEEE Global Communications Conference (GLOBECOM)*, Taipei, Taiwan, Dec. 2020.

[16] T. Huynh-The, V.-S. Doan, C.-H. Hua, **Q.-V. Pham**, and D.-S. Kim, "Learning Constellation Map with Deep CNN for Accurate Modulation Recognition," in *IEEE Global Communications Conference (GLOBECOM)*, Taipei, Taiwan, Dec. 2020.

[17] R. Ruby, K. Wu, **Q.-V. Pham**, and B. M. Elhalawany, "Aiding a Disaster Spot via an UAV-Based Mobile AF Relay: Joint Trajectory and Power Optimization," in *ACM International Symposium on Mobility Management and Wireless Access (MobiWac)*, Alicante, Spain, Nov. 2020.

[18] T. Huynh-The, C.-H. Hua, V.-S. Doan, **Q.-V. Pham**, N. T. Van, and D.-S. Kim, "Deep Learning for Constellation-based Modulation Classification under Multipath Fading Channels," in *International Conference on Information and Communication Technology Convergence (ICTC)*, Jeju, Korea, Oct. 2020.

[19] I. Budhiraja, N. Kumar, S. Tyagi, **Q.-V. Pham**, and S. Tanwar, "Energy Efficient Mode Selection Scheme for Wireless Powered D2D Communications with NOMA Underlaying UAV," in *IEEE Conference on Computer Communications Workshops (INFOCOM WKSHPS)*, Toronto, Canada, Jul. 2020.

[20] H. Han, J. Zhao, D. Niyato, M. D. Renzo, and **Q.-V. Pham**, "Intelligent Reflecting Surface Aided Network: Power Control for Physical-Layer Broadcasting," in *IEEE International Conference on Communications (ICC)*, Dublin, Ireland, Jun. 2020.

[21] L. N. T. Huynh, **Q.-V. Pham**, T. D. T. Nguyen, M. D. Hossain, J. H. Park, and E.-N. Huh, "A Study on Computation Offloading in MEC Systems using Whale Optimization Algorithm," in *International Conference on Ubiquitous Information Management and Communication (IMCOM)*, Taichung, Taiwan, 2020.

[22] I. Nadia, **Q.-V. Pham**, and W.-J. Hwang, "Resource Management in NOMA-based Unmanned Aerial Vehicles Wireless Backhaul Networks", in *Korea-Japan Joint Workshop on Complex Communication Sciences (KJCCS2020)*, Hiroshima, Japan, Jan. 2020.

[23] H.-T. Hoang, W.-J. Hwang, and **Q.-V. Pham**, "Improved S-Shaped Transfer Function for Binary Whale Optimization Algorithm," in *International Conference on Multimedia Information Technology and Applications (MITA2019)*, Ho Chi Minh city, Vietnam, Jul. 2019.

[24] L. N. T. Huynh, **Q.-V. Pham**, Q. D. Nguyen, X.-Q. Pham, V. D. Nguyen, and E.-N. Huh, "Energy Efficient Computation Offloading with Multi-MEC Servers in 5G two-tier Heterogeneous Networks," in *International Conference on Ubiquitous Information Management and Communication (IMCOM)*, Phuket Thailand, Jan. 2019.

[25] **Q.-V. Pham** and W.-J. Hwang, "Fair and Energy-Efficient Power Control in Spectrum-Sharing Wireless Networks," in *International Conference on Multimedia Information Technology and Applications (MITA2016)*, Luang Prabang, Laos, Jun. 2016.

[26] **Q.-V. Pham** and W.-J. Hwang, "Outage Constrained Resource Allocation for Energy Efficiency in Coordinated Multicell OFDMA Networks," in *Japan-Korea Joint Workshop on Complex Communication Sciences (JKCCS2016)*, Busan, Korea, Oct. 2016.

[27] **Q.-V. Pham**, M. Hasegawa, and W.-J. Hwang, "An Energy-Efficient Resource Allocation in Ad Hoc Networks," in *Korea-Japan Joint Workshop on Complex Communication Sciences (KJCCS2016)*, Nozawa Onsen, Japan, Jan. 2016.

Domestic Conferences

[1] T Huynh-The, T.-V. Nguyen, **Q.-V. Pham**, and D.-S. Kim, "An Accurate ConvNet-Empowered Modulation Classification for OFDM Systems," in *Proceedings of Symposium of the Korean Institute of Communications and Information Sciences (KICS)*, Gangneung, Korea, Feb. 2021.

[2] T.-H. Vo, **Q.-V. Pham**, and W.-J. Hwang, "Secrecy-based Task Offloading and Resources Optimization in Mobile Edge Computing System," in *Proceedings of Symposium of the Korean Institute of Communications and Information Sciences (KICS)*, Jeju, Korea, Jun. 2019.

[3] L. N. T. Huynh, **Q.-V. Pham**, T. V. Tai, Tri D.T. Nguyen, VD Nguyen, J. H. Park, and E.-N. Huh, "Using PSO Algorithm for Computation Offloading in Multi-Access Edge Computing," in *Proceedings of the Korean Information Science Society Conference*, 20190626, pp. 249-251, Jeju, Korea, Jun. 2019.

[4] H.-D. Lieu, **Q.-V. Pham**, and W.-J. Hwang, "Secure UAV Communications with Non-Orthogonal Multiple Access," in *Spring Conference of the Korean Multimedia Society (KMMS)*, Pohang, Korea, May 2019.

[5] M. Le, **Q.-V. Pham**, and W.-J. Hwang, "Resource Allocation in NOMA-based D2D Communications with Both Licensed and Unlicensed Bands," in *Spring Conference of the Korean Multimedia Society (KMMS)*, Pohang, Korea, May 2019.

[6] A. A. B. M. Zin, **Q.-V. Pham**, and W.-J. Hwang, "Blockchain Approach on Enhancing User Data Privacy in Healthcare IoT Network," in *Fall Conference of the Korean Multimedia Society (KMMS)*, vol. 21, no. 2, Nov. 2018.

[7] G. G. Girmay, **Q.-V. Pham**, and W.-J. Hwang, "Joint channel and Power allocation for Device-to-Device communication on Licensed and Unlicensed band," in *Fall Conference of the Korean Multimedia Society (KMMS)*, vol. 21, no. 2, Nov. 2018.

[8] **Q.-V. Pham** and C. S. Hong, "Power Control for Harmonic Utility in Non-Orthogonal Multiple Access based Visible Light Communications," in *Proceedings of the Korean Information Science Society Conference*, Busan, Korea, Dec. 2017.

[9] **Q.-V. Pham** and W.-J. Hwang, "Distributed Power Control for Interference Management in Uplink Heterogeneous Networks," in *Spring Conference of the Korean Multimedia Society (KMMS)*, vol. 20, no. 1, May 2017.

[10] **Q.-V. Pham**, A. Radwan, and W.-J. Hwang, "Optimal Resource Allocation for Energy Efficiency in Uplink Heterogeneous Networks," in *Fall Conference of the Korean Multimedia Society (KMMS)*, vol. 18, no. 2, Nov. 2015.

[11] **Q.-V. Pham**, A. Radwan, and W. J. Hwang, "Hop-by-Hop Rate Control in Multipath Lossy Wireless Networks," in *Spring Conference of the Korean Multimedia Society (KMMS)*, vol. 18, no. 1, May 2015.

[12] **Q.-V. Pham** and W.-J. Hwang, "A Novel Cross-Layer Design for Fast-Fading Multihop Wireless Networks," in *Fall Conference of the Korean Multimedia Society (KMMS)*, vol. 17, no. 2, Nov. 2014.

[13] **Q.-V. Pham** and W.-J. Hwang, "A Novel Handover Algorithm in LTE Small Cell Networks," in *Spring Conference of the Korean Multimedia Society (KMMS)*, vol. 17, no. 1, May 2014.

[14] **Q.-V. Pham** and W.-J. Hwang, "Joint Inter-cell Interference Management and Mobility-aware Prediction in LTE Femtocell Networks," in *Fall Conference of the Korean Multimedia Society (KMMS)*, vol. 16, no. 2, Nov. 2013.

Languages

Vietnamese:	Mother-tongue
English:	Fluent
Korean:	Basic Knowledge